APPENDIX F

Verification of Assembly Plant Location Coordinates

Latitude and longitude coordinates ("lat/longs") reported by assembly plants as part of their TRI submissions were used to locate plants. EPA has developed a review process for lat/long coordinates which results in selection of "preferred" lat/longs where the submitted coordinates appear to be in error.[1] For this project, we conducted a further review of the preferred lat/longs for each assembly plant, which resulted in further adjustments for some plants. Based on the results of this review, EPA is planning to revise its method for developing preferred lat/longs for facilities with large-area sites. This appendix describes the method used by the Project Team to review the preferred lat/longs.

U.S. Geological Survey (USGS) maps (1:24,000-scale) were used to identify the approximate location of each assembly plant, based on its street address. These maps each encompass a 7.5 x 7.5 minute area (approximately 60 square miles). Then, a local party (fire department, police department, zoning board, planning commission or city hall) was contacted by phone and asked to describe the precise location of the assembly plant. For 41 of the 56 plants, the actual factory building(s) were displayed on the maps. The remaining 15 plants were not shown directly, perhaps because the plants had been constructed after the most recent map update by USGS. In each of these 15 cases, a second local contact was made to ensure that we had accurately identified the plant's location.

Once the plant locations on the maps were verified, lat/longs were plotted using a coordinate plotting tool. New, corrected lat/longs were substituted for EPA's preferred lat/longs only where the preferred lat/longs were (1) more than 200 meters from the plant, (2) were not on plant property, or (3) (in one case) were not available from the EPA preferred coordinates list to begin with. Company reviewers provided feedback on the new set of coordinates, resulting in further revisions for two additional plants. The resulting lat/longs used in this report are therefore those provided by EPA (where the preferred values were retained) or corrected coordinates representing the approximate center of the plant site.

The preferred coordinates were retained for 27 of the 56 plants, 28 plants were assigned a different lat/long (which in some cases was the lat/long originally submitted by the facility), and one plant without a preferred lat/long to begin with was assigned a lat/long.

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[1] *Updated TRI Location Data Quality Assurance and Release Notes for 1987-1993 GIS Coverages*, prepared for U.S. EPA Office of Pollution Prevention and Toxics by ViGYAN Inc., July 19, 1995

Reported lat/longs may be in error for a number of reasons, including transcription errors, rounding (e.g., not reporting seconds or decimals), or use of inaccurate maps. There is error inherent in any map-derived lat/longs, even after the review described here.[2] Users of this document should be aware that even the corrected lat/longs are accurate only within a range of feet or meters. Furthermore, especially for large-area sites like assembly plants, different lat/long coordinates might be preferred for different purposes. For example, coordinates may differ for the plant gate, the "flagpole" (center of the plant property) and various emissions sources within the plant. Calculations of demographic and environmental data for areas centered around plant lat/long coordinates should therefore be viewed as approximations.

[2] More accurate methods of determining coordinates requires use of the satellite-based Geographic Positioning System (GPS) with post-processing to correct for "selective availability" (errors deliberately introduced for military security reasons.) This level of effort was beyond the scope of this project.